Prioritizing Ecosystem Restoration Actions within the Delta

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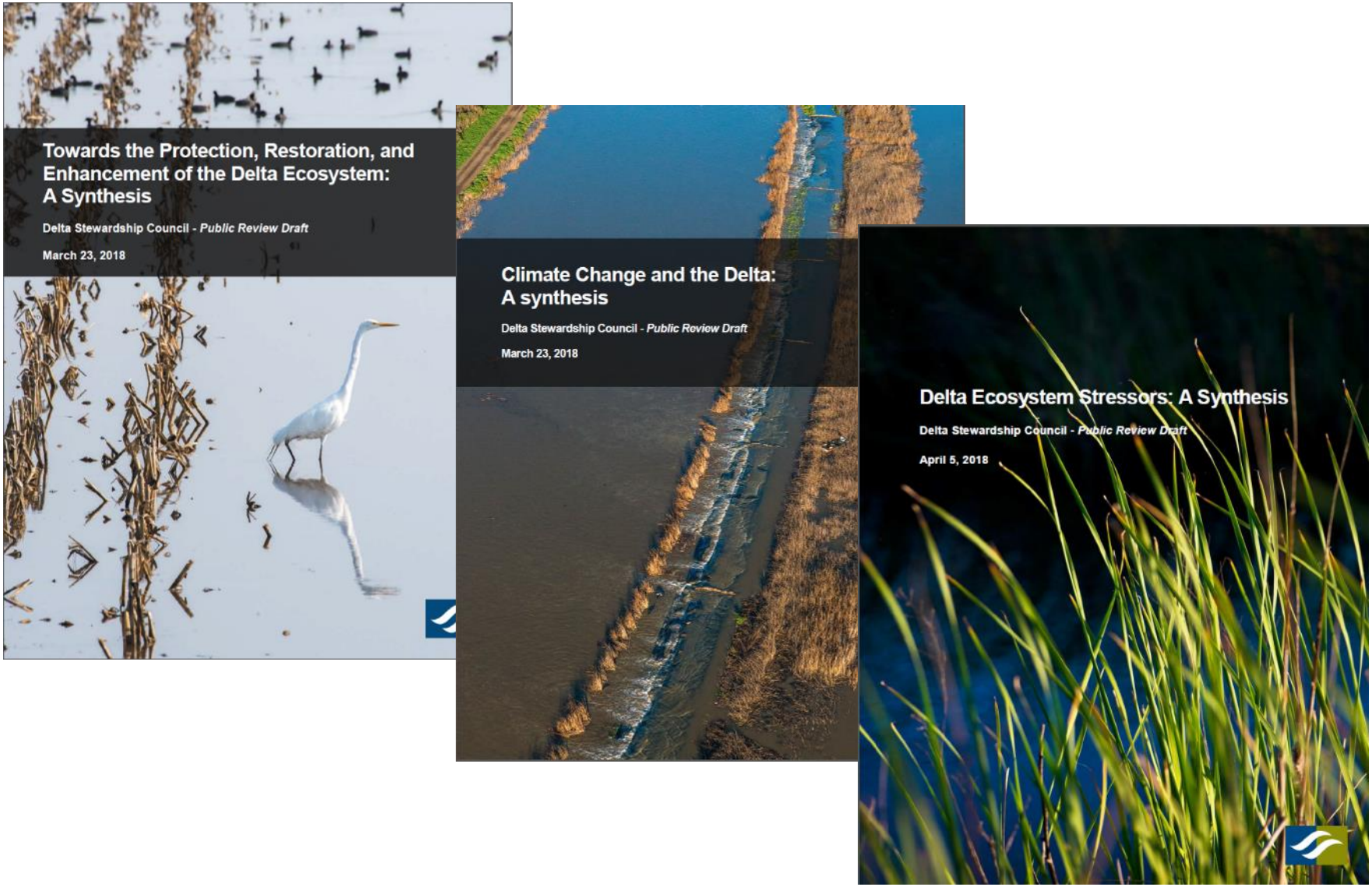

Tule Red Tidal Wetland Restoration Project

Source: Westervelt Ecological Services

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WHAT DOES IT MEAN TO ACHIEVE THE GOAL OF PROTECTING, RESTORING, AND ENHANCING THE DELTA ECOSYSTEM?

Achieving the coequal goal of ecosystem protection, restoration, and enhancement means successfully establishing a resilient, functioning estuary and surrounding terrestrial landscape capable of supporting viable populations of native resident and migratory species with diverse and biologically appropriate habitats, functional corridors, and ecosystem processes.

For this purpose, the term "restoration" is defined in Water Code section 85066 as follows:

> *"the application of ecological principles to restore a degraded or fragmented ecosystem and return it to a condition in which its biological and structural components achieve a close approximation of its natural potential, taking into consideration the physical changes that have occurred in the past and the future impact of climate change and sea level rise."*

Restoration actions may include restoring interconnected habitats within the Delta and its watershed, restoring more natural Delta flows, or improving ecosystem water quality.

"Protection" means preventing harm to the ecosystem, which could include preventing the conversion of existing habitat, the degradation of water quality, irretrievable conversion of lands suitable for restoration, or the spread of invasive nonnative species.

"Enhancement" means improving existing desirable habitat and natural processes. Enhancement might include flooding the Yolo Bypass more often to support native species, or to expand or better connect existing habitat areas. Enhancement includes many fish and wildlife management practices, such as managing wetlands for waterfowl production or shorebird habitat, installing fish screens to reduce entrainment of fish at water diversions, or removing barriers that block migration of fish to upstream spawning habitats.

DP-306

Delta Plan, P. 120

Vision of a Restored Delta

"Achieving the coequal goal of ecosystem protection, restoration, and enhancement means successfully establishing

- a resilient, functioning estuary and surrounding terrestrial landscape
- capable of supporting viable populations of native resident and migratory species with
  - diverse and biologically appropriate habitats,
  - functional corridors, and
  - ecosystem processes."

Delta Plan p.120

Ecosystem Restoration Priorities

Common Attributes:

- be consistent with Delta Plan's "restoration" definition,
- anticipate sea level rise and other climate change, consequences
- apply the right strategies in the right location,
- employ best available science and robust adaptive management,
- have clearly articulated societal benefits, and
- minimize environmental impacts.

Ecosystem Restoration Priorities

Priority Attributes:

- restore ecological processes,
- be large scale,
- improve native habitat connectivity,
- increase native habitat complexity and diversity, and
- contribute to the recovery of at-risk communities or species.

Ecosystem Restoration Priorities

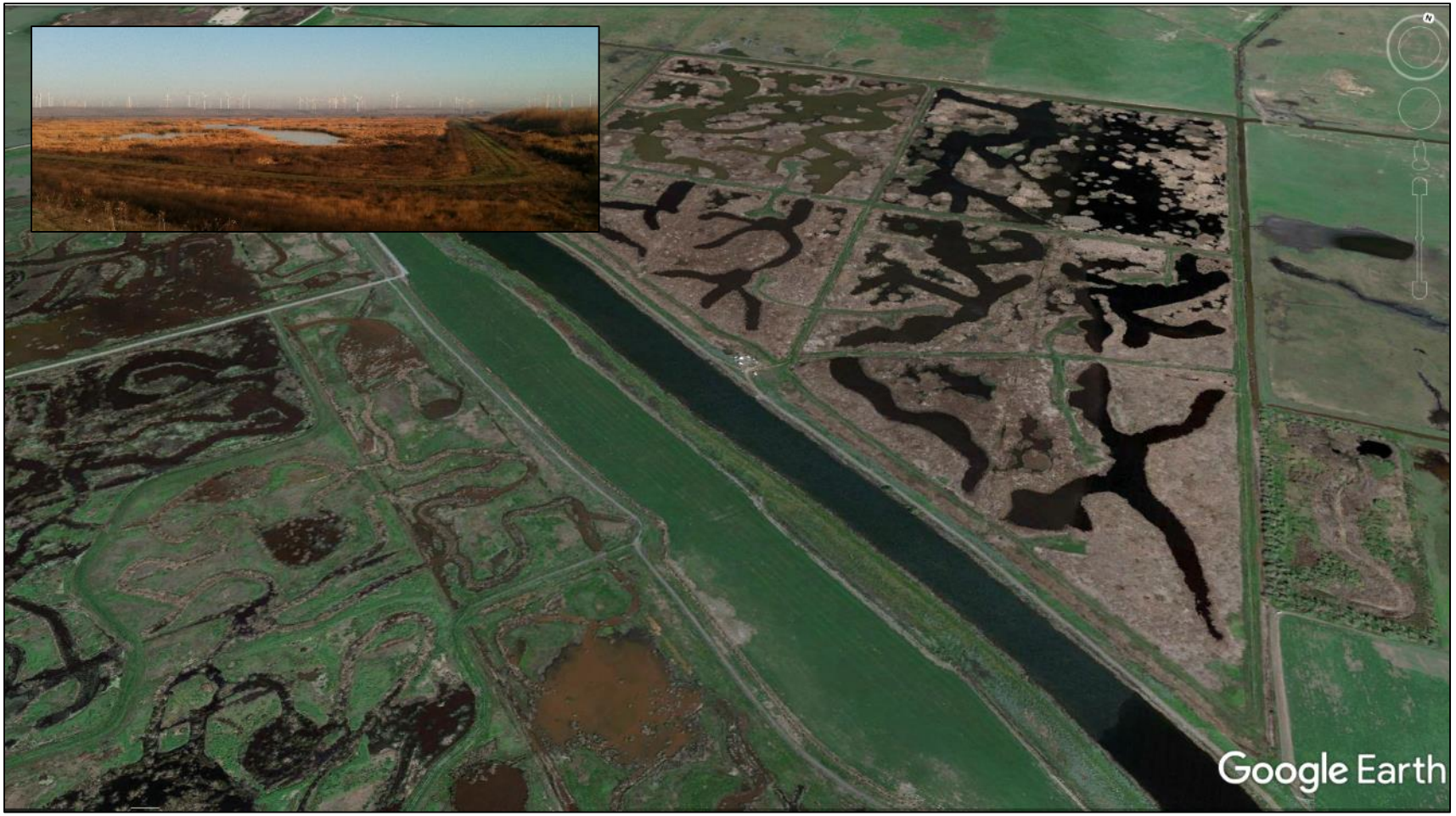
Table 1. Delta Ecosystem Restoration Priority Attributes of Four Tiers of Restoration Actions

	Restore Ecological Processes	Large Scale	Improve Native Habitat Connectivity	Increase Native Habitat Complexity/ Diversity	Benefit At-Risk Natural Communities or Species
Tier 1 Actions	√	√	√	√	√
Tier 2 Actions		√	√	√	√
Tier 3 Actions		(√)	√ or √		√
Tier 4 Actions		(√)	(√)	(√)	√

√ = consistent attribute
(√) = occasional or inconsistent attribute

Tier 1 – Example: Floodplain Restoration

Tier 2 – Example: Managed Wetland



Tier 3 – Example: Habitat on Levees

Tier 4 – Example: Wildlife Friendly Agriculture

Restoration Priorities by Conservation Opportunity Region

Table 2. Summary of Restoration Priorities by Conservation Opportunity Region

Conservation Opportunity Region	Ecosystem Restoration Opportunities (priority level in parentheses)
Yolo Bypass	• increase flood frequency to enhance juvenile salmonid rearing (1) • improve fish passage (1 – 3, depending on combination with other actions) • setback levees (physically widen the Bypass), increase acreage of riparian habitat along westside tributaries (1) • reestablish wide transition zones (1) • wildlife-friendly agriculture (4)
Cache Slough Complex	• large-scale tidal marsh restoration with setback levees (1) • reestablish tidal inundation regimes on low-order channel branches (1) • reestablish longitudinal transition zones at Cache Slough Complex – Jepson Prairie (1) • removal or reconfiguration of Calhoun and Hastings Cuts to improve channel complexity and tidal hydrodynamics of Cache and Lindsey Sloughs (1) • wildlife-friendly agriculture (4)